

Wisconsin Department of Natural Resources
Bureau of Watershed Management (WT/3)
101 S. Webster St.
Madison, WI 53703
PO Box 7921
Madison, WI 53707-7921

Final Report Form 3400-189 (rev. 7/30/09)
• Targeted Runoff Management Grant Program (ch. NR 153)
• Notice of Discharge Program (ch. NR 153)
• Urban Nonpoint Source & Storm Water Management Grant Program (ch. NR 155)

RECEIVED
APR 17 2014

NOTICE: This Final Report is authorized under ss. 281.65 and 281.66., Wis. Stats., and chs. NR 153 and NR 155, Wis. Admin. Code. Information collected will be used for program administration and may be made available to requesters as required under Wisconsin Open Records Law [ss. 19.31-19.39, Wis. Stats.].

INSTRUCTIONS: Your grant agreement requires you to submit a Final Report with your final reimbursement request. This Final Report form must be used in conjunction with the "FINAL REPORT INSTRUCTIONS." The instructions detail how to complete and submit the report to DNR as described in the instructions.

1. GRANT TYPE. Check the one that applies.

- ☐ Targeted Runoff Management Grant – Agricultural ☐ Targeted Runoff Management Grant – Urban
☒ Urban Nonpoint Source & Storm Water Management Grant – Construction ☐ Urban Nonpoint Source & Storm Water Management Grant – Planning
☐ Notice of Discharge Grant

2. PROJECT NAME & LOCATION.

2.1. Project Name: Red Arrow Trail Detention Pond		2.2. Grant Number: USC-LR08-13225-12 A	
2.3. Governmental Unit Name: Fitchburg, City of		2.4. Primary Watershed Name: Lake Monona-Yahara River	2.5. Watershed Code: LR08

NOTE FOR SECTION 2.6 (which follows):

Section 2.6. includes five (5) columns (A. through E.) for recording data about five (5) discrete site locations. If your grant has more than five (5) discrete project locations, attach additional columns for Section 2.6 as described in the instructions. If your project occurs in more than one 12-digit Hydrologic Unit Code (HUC), use the space in adjacent columns to record other HUC numbers.

2.6. Site Location(s) →	A.	B.	C.	D.	E.
Name of Cost-Share Recipient or Governmental Unit	Fitchburg, City of				
Cost-Share Agreement Number (Agricultural only)					
12-Digit Hydrologic Unit Code(s) (HUC) Where Work Was Completed	070900020702				
Nearest Surface Receiving Water Affected					
Name:	Dunn's Marsh				
Waterbody Identification Code(s) (WBIC):	5575699				
Nearest Impaired Water Affected					
Name:	Nine Springs Creek				
Waterbody Identification Code(s) (WBIC):	804200				
Pollutants Reduced	Sediment (TSS), Total Phosphorus				
Impairments/Impacts Addressed	Sediment (TSS), Total Phosphorus				

Final Report Form 3400-189 (rev. 7/30/09)

- Targeted Runoff Management Grant Program (ch. NR 163)
- Notice of Discharge Program (ch. NR 163)
- Urban Nonpoint Source & Storm Water Management Grant Program (ch. NR 166)

Project Location(s) (cont.) →	A.	B.	C.	D.	E.
Project Coordinates:					
Town	06				
Range	09				
Section	05				
Quarter	NE				
Quarter-Quarter	SW				
Latitude (degrees, minutes, seconds North of Equator; use the DNR's Surface Water Data Viewer (SWDV))	(43,01,32)				
Longitude (degrees, minutes, seconds W of Prime Meridian, use the SWDV)	(89,27,18)				

3. SUMMARY OF RESULTS.

Table A. Agricultural Projects. – Ch. NR 151 Performance Standards and Prohibitions and Other Water Resources Management Priorities

A.1. Management Measures	Units of Measure	Quantity	Measurement Method Used
Sheet, rill and wind erosion	Acres meeting "T"	acres	
Manure Storage Facilities: New Construction/Alterations	Number of facilities	facilities	
	Number of animal units	animal units	
Manure Storage Facilities: Closure	Number of facilities	facilities	
Manure Storage Facilities: Failing/Leaking Facilities	Number of facilities	facilities	
	Number of animal units	animal units	
Clean Water Diversions in WQMA	Pollutant load reduction	lbs.	
	Number of farms with diversions	farms	
	Number animal units	animal units	
Nutrient Management on Agricultural Land	Acres planned	acres	
Prohibition: Manure Storage Overflow	Number of farms	farms	
	Number of animal units	animal units	
Prohibition: Unconfined Manure Pile in WQMA	Number of farms	farms	
Prohibition: Direct Runoff From Feedlot/Stored Manure	Pollutant load reduction	lbs.	
	Number of facilities	facilities	
	Number of animal units	animal units	
Prohibition: Unlimited Livestock Access	Feet of bank protected	feet	
	Number of farms	farms	

Final Report Form 3400-189 (rev. 7/30/09)

- Targeted Runoff Management Grant Program (ch. NR 163)
- Notice of Discharge Program (ch. NR 163)
- Urban Nonpoint Source & Storm Water Management Grant Program (ch. NR 166)

Table A: Agricultural Projects (continued)		Units of Measure	Quantity	Measurement Method Used
A.2. Other Management Measures				
Streambank & Shoreline Protection	Units (use feet, acres or number as applicable)			
	Pollutant load reduction (if method available)			
Other:	Units (use feet, acres or number as applicable)			
	Pollutant load reduction (if method available)			
Other:	Units (use feet, acres or number as applicable)			
	Pollutant load reduction (if method available)			
Other:	Units (use feet, acres or number as applicable)			
	Pollutant load reduction (if method available)			

Table B: Urban Construction Projects Serving Developed Areas			
B.1. Required Management Measures	Units of Measure	Quantity	Measurement Method Used
20-40% Total Suspended Solids (TSS) Reduction for NR 216 communities	TSS reduced	4230 lbs.	WinSLAMM v10
	TSS reduction	41 %	WinSLAMM v10
B.2. Other Management Measures			
20-40% Reduction in TSS for non-NR 216 communities	TSS reduced	lbs.	
	TSS reduction	%	
Infiltration	Pre-development stay-on volume	%	
	Stay-on volume	ft ³ /year	
Peak flow discharge for 2 year/24 hour design storm	Change in cubic feet per second for design year	ft ³ /sec	
Protective areas	Bank protected	feet	
Fueling & maintenance areas	Oily sheen presence reduced	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Streambank & Shoreline Protection	Bank erosion reduced	tons	
	Bank protected	feet	
Other: Phosphorus	Pollutant load reduction (if method available)	40 %	WinSLAMM v10
	Units (use feet, acres or number as applicable)	10 lb	WinSLAMM v10

Table C: Urban Planning Projects			
C.1. Governmental unit(s) involved (list by name):			
C.2. Estimate total acres covered by the	Existing Developed Urban Areas	New Development	Total Acres

Final Report Form 3400-189 (rev. 7/30/09)

- Targeted Runoff Management Grant Program (ch. NR 153)
- Notice of Discharge Program (ch. NR 153)
- Urban Nonpoint Source & Storm Water Management Grant Program (ch. NR 155)

planning product:	acres	acres	acres
-------------------	-------	-------	-------

C.3. Products developed (check all below that apply)	Identify Documents by Name (if applicable)
<input type="checkbox"/> Storm Water Plan	
<input type="checkbox"/> Construction or Erosion Ordinances	
<input type="checkbox"/> Post-construction Storm Water Ordinances	
<input type="checkbox"/> Other Types of Storm Water Quality Ordinances	
<input type="checkbox"/> Financing Methods: identified and evaluated	
<input type="checkbox"/> Financing Methods: developed or implemented	
<input type="checkbox"/> I & E Plan	
<input type="checkbox"/> I & E Implementation Activities	
<input type="checkbox"/> Other:	
C.4. Identify the Storm Water goals addressed (check all that apply)	
<input type="checkbox"/> Reduce TSS	Comments:
<input type="checkbox"/> Maintain infiltration	
<input type="checkbox"/> Control Peak Flow	
<input type="checkbox"/> Protective Areas	
<input type="checkbox"/> Control of Fueling & Maintenance Areas	
<input type="checkbox"/> Remove Illicit Discharges	
<input type="checkbox"/> Other:	

4. Satisfaction of Notice Requirements. If cost sharing for this project was offered under a formal notice pursuant to chs. NR 151 or 243, provide information for each notice in the table below.

Notice Information				Notice Satisfaction Information		
Chs. NR 151 or 243 Notice Type	Issue Date	From (Name)	To (Name)	Satisfied?		Date Letter Sent
				Yes	No	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	

Final Report Form 3400-189 (rev. 7/30/09)

- Targeted Runoff Management Grant Program (ch. NR 153)
- Notice of Discharge Program (ch. NR 153)
- Urban Nonpoint Source & Storm Water Management Grant Program (ch. NR 155)

5. Additional Information. (Space will expand to fit your text.)

The City of Fitchburg applied to WDNR for an Urban Non-Point Source & Storm Water (UNPS & SW) Planning Grant on May 2, 2011 for the construction of the Valley View Detention Pond. WDNR notified Fitchburg on February 10, 2012 that the grant was successful and that Fitchburg would be eligible for grant funding for the January 1, 2012 to December 31, 2013 time period.

This project consisted of the construction of a Wet Detention Pond southeast of the intersection of Red Arrow Trail and Crescent Road. The storm sewer for the drainage area previously extended approximately 150' south of this intersection through Lot 18 of Belmar Plat and discharged directly into a wetland with no means of improving water quality or controlling water quantity. Severe erosion and sedimentation had occurred within the wetland due to this storm sewer discharge.

Under this project, the City of Fitchburg rerouted the existing storm sewer and constructed a wet detention pond upstream of the wetland. This pond was designed to control Total Suspended Solids to more than 40% removal efficiency and to control peak discharges to predevelopment rates. The existing invasive plant species (honeysuckle, buckthorn, reed canary grass, dames rocket, and garlic mustard, etc.) were removed and replaced with native vegetation following the final grading of the wet detention pond. Additionally, in February of 2011, the Megan's Bay Condominium Association approached the City of Fitchburg with a report detailing recurring heavy flooding episodes at the intersection of Crescent Rd and Red Arrow Trail, causing property damage and hazardous driving conditions. Red Arrow Pond project has been designed to take in stormwater from Red Arrow Dr/Crescent Rd intersection in order to alleviating a frequent flooding problem while providing treatment before entry into Dunn's Marsh.

Red Arrow Pond was designed "in-house" by City of Fitchburg Engineering staff. Field and Stream Restorations were hired for vegetation management on the site. Herbicide treatments took place over several applications during June-August 2012. The design work occurred during the fall and winter of 2012. The project bids were received and opened from 11 contractors on February 6, 2013. The bid was awarded to Badgerland Excavating Corp. Construction work began in April 2013. Fine grading and seeding of native vegetation occurred the week of June 10, 2013. Erosion control measures were removed in late July as native vegetation was established. In September, a stainless steel baffle was installed around the release structure and a certificate of substantial completion was issued. Photos of the site before and after installation of the pond can be found in Attachment #1.

6. Summary of Project Challenges. (Space will expand to fit your text.)

Because of the proximity of the adjacent wetland, working conditions were tight. It was challenging to have the pond include the required slopes and safety features while creating enough depth for water quality improvement. More water quality improvement would have been possible if the pond could have been made larger. While the need to protect existing wetlands is understandable, sacrificing a small portion of degraded wetland may be worthwhile for the increased amount TSS and phosphorous trapped in the facility. In the future, if the soils are favorable it may be better to try and construct infiltration facilities in a confined area as opposed to a wet pond.

7. Grantee Certification.

Checking here ☒ certifies that, to the best of your knowledge, the information contained in this report is correct.

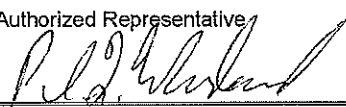
Name of Authorized Representative (type or print) ↓

Paul Q. Woodard

Title of Authorized Representative (type or print) ↓

Director of Public Works

Signature of Authorized Representative



Date

4/9/14

8. For Departmental Use Only.

Regional NPS Coordinator – Please complete the following:

8.A. Check here ☒ if you have received the following from the project sponsor:

- one (1) printed, signed, original Final Report + attachments
- one (1) electronic version of Final Report.

Wisconsin Department of Natural Resources
Bureau of Watershed Management (WT/3)
101 S. Webster St.
Madison, WI 53703
PO Box 7921
Madison, WI 53707-7921

Final Report Form 3400-189 (rev. 7/30/09)

- Targeted Runoff Management Grant Program (ch. NR 163)
- Notice of Discharge Program (ch. NR 163)
- Urban Nonpoint Source & Storm Water Management Grant Program (ch. NR 166)

Send the printed, signed original Final Report with attachments + electronic version to the Community Financial Assistance Grants Manager.
Community Financial Assistance will forward to Runoff Management Section Grants Coordinator.

8.B. Comments about this project:

8.C. Type or print Name of Regional NPS Coordinator →

Mike Gilbertson

8.D. Signature of Regional NPS Coordinator



8.E. Date

4/16/14